KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT
KHSR
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Statewide Asthma Burden Document Released

Introduction

The Kansas Department of Health and Environment's Environmental Public Health Tracking program has released the Statewide Asthma Burden Document, which summarizes data on asthma prevalence and burden in Kansas and includes data from 2000 to 2017. Asthma is a chronic disease that can make breathing difficult. Persons with asthma can experience episodes of breathlessness, wheezing, coughing, chest tightness, and other symptoms when their airflow is limited (1). Asthma makes breathing difficult because of airway inflammation (2). Asthma can be severe enough that it causes missed days of work and school, emergency department (ED) visits, hospitalizations, and even death. Asthma affects both children and adults. Asthma in the United States has increased and is one of the most common chronic diseases. In 2016 in the United States, 13.7% of adults age 18 years and older reported having asthma in their lifetime and 12.5% of children under the age 18 years had asthma (3,4). In Kansas, these numbers were similar at 13.1% and 12.3%, respectively (3,4).

Selected Findings

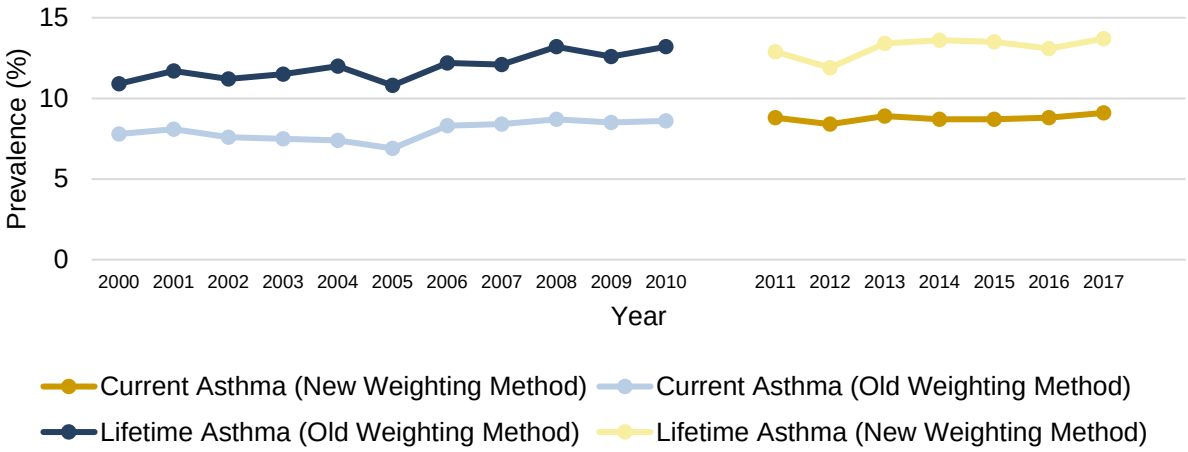
The lifetime prevalence of asthma in adult Kansans appears to have a slight upward trend since 2011 (Figure 1). The current asthma prevalence appears to have little variation in its estimate since 2006. The estimated lifetime and current asthma for adult Kansans was highest in 2017 at 13.7% (CI: 13.1%-14.3%) and 9.1% (CI: 8.6%-9.6%), respectively. The trend of both lifetime and current asthma prevalence has not significantly changed from 2011 to 2017. In 2017, adult females in Kansas had a higher prevalence of current asthma than males (11.5% and 6.7%, respectively). Nationally, adult women tend to have a higher prevalence of asthma than men (5,6). The difference in prevalence between males and females was statistically significant for adults in Kansas.

Since 2003, the lifetime and current asthma prevalence in Kansas children have gone up and down, but overall appear to have increased slightly. The lifetime and current asthma prevalence of children were both at their highest in 2012 at 13.9% (CI: 12.3%-15.5%) and 10.4% (CI: 9.0%-11.9%), respectively, and appear to have decreased slightly since then (Figure 2). The trend of both lifetime and current asthma prevalence of children in Kansas has not significantly changed from 2011 to 2016. In 2016, unlike adult Kansans, male children in Kansas had a higher prevalence of current asthma than females (11.1% and 6.7%, respectively). The difference in prevalence between males and females was statistically significant for children in Kansas.

Inside

Kansas Department of Health and Environment
Division of Public Health
Bureau of Epidemiology and Public Health Informatics

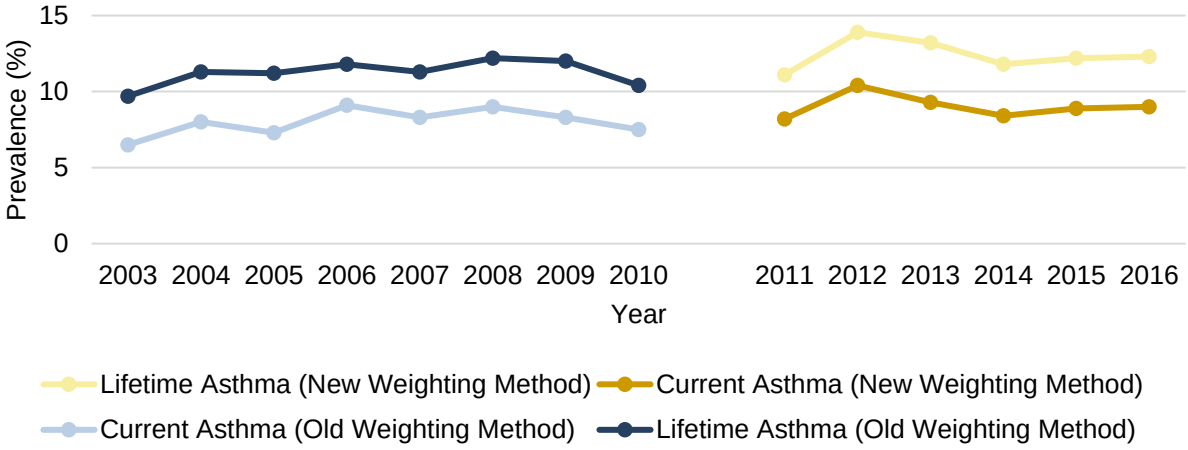
Figure 1. Lifetime and Current Asthma Prevelance in Adults Age 18 Years and Older, Kansas 2000-2017*



Source: Kansas Department of Health and Environment, Behavioral Risk Factor Surveillance System. Available from: http://www.kdheks.gov/brfss/index.html.

*Note: BRFSS weighting methodology is different for data after 2010; therefore, BRFSS data from 2010 and earlier cannot be directly compared to BRFSS data from 2011 and after. The difference observed may be due to the difference in methodology and not an actual difference in prevalence.

Figure 2. Lifetime and Current Asthma Prevalence in Children Under Age 18 Years, Kansas 2003-2016*



Source: Kansas Department of Health and Environment, Behavioral Risk Factor Surveillance System. Available from: http://www.kdheks.gov/brfss/index.html.

*Note: BRFSS weighting methodology is different for data after 2010; therefore, BRFSS data from 2010 and earlier cannot be directly compared to BRFSS data from 2011 and after. The difference observed may be due to the difference in methodology and not an actual difference in prevalence.

Risk Factors

Asthma affects those that are economically disadvantaged at a disproportionately higher frequency than those that are not economically disadvantaged (7). In Kansas, adults that were college graduates had a lower prevalence of current asthma than those that had less than a high school education (7.4% and 11.8%, respectively). Additionally, adults from lower-income households had a higher prevalence of current asthma than those from higher income households. This trend did not hold true for Kansas children. Adults that are current smokers and those that are obese have a statistically significantly higher prevalence of current asthma compared to non-smokers and those that are not obese.

Racial Disparities

Nationally, asthma prevalence is higher among those that are multi-racial, black or African American, and American Indian or Alaska Native than those that are white (6). Adult Kansans that reported being more than one race or reported their race as black or African American had a statistically significantly higher prevalence of current asthma compared to those that reported their race as white (17.3%, 12.3%, and 8.9%, respectively). Asthma prevalence for children that were white or Asian were lower than those that were black or African American, American Indian or Alaska Native, and those that were more than one race. Child race was identified by a parent. Asthma prevalence estimates were not statistically different among races. Age-adjusted rates for both emergency department (ED) visits and hospitalizations due to asthma were statistically significantly higher among those that were black or African American and those that were a race other than white or black or African American compared to those that were white. For ED visits and hospitalizations, race was identified by hospital records.

Asthma Management

Quality of life among persons with asthma can be greatly improved by controlling their disease. Asthma management is improved when the patient has a greater control of the asthma symptoms. Asthma education and the development of an asthma management plan help prevent serious attacks leading to an ED visit and/or hospitalization. In 2015, among Kansas adults 18 years and older with current asthma, only about one-quarter (26.0%, CI: 21.1%-30.9%) had received an asthma management plan while about one-third missed one or more days of work or usual activity. An estimated 48.1% (CI: 42.8%-53.4%) of adults with current asthma experienced an asthma attack in the last year. The percentage of children that had an asthma management plan was higher than adults. Among Kansas children less than 18 years old with current asthma, over half (55.5%, CI: 45.4%-65.1%). had received an asthma management plan according to estimates from 2012-2014. Nearly half of children had an asthma attack in the past year and 45.6% (CI: 35.5%-56.2%) missed days of work/school or usual activity.

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Summer Heat-Related Illness

Introduction

Heat stroke, heat exhaustion, heat cramps, sunburn, and heat rash are preventable heat-related illnesses. Prevention can be summarized as staying cool, staying hydrated, and staying informed. (1) July 2019 involved two extreme heat related events. The impact of the two events was tracked by the Kansas Syndromic Surveillance Program (KSSP) and Kansas Environmental Public Health Tracking Network (EPHTN) of the Kansas Department of Health and Environment.

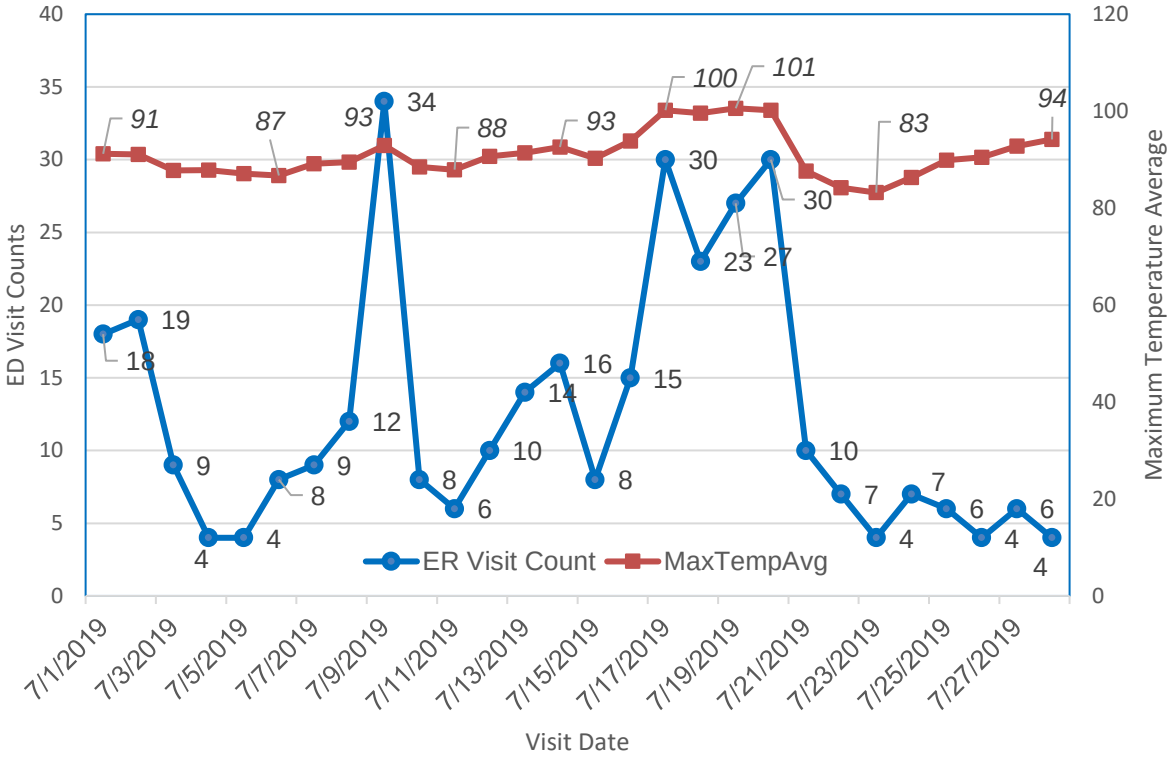
Methods

KSSP receives emergency department data from 87 of 137 Emergency Departments in Kansas, accounting for 88.7% of ED visits occurring in Kansas. For tracking of heat related illnesses, the CDC ESSENCE Heat Related Illness v2 definition was used to identify suspected heat-related illness Emergency department (ED) visits. Manual review of the text information was performed to exclude false positives. ED visits were then compared to the maximum temperature average for 13 weather stations reporting to the National Weather Service.

Findings

During July 2019, 352 ED visits were identified as heat related illnesses (Figure 1). The visit counts peaked at 34 on July 9, when the maximum temperature average was 93 degrees. A second pair of spikes of 30 visits were reported on July 17 and July 20 when the maximum temperature average was at 100 degrees or greater.

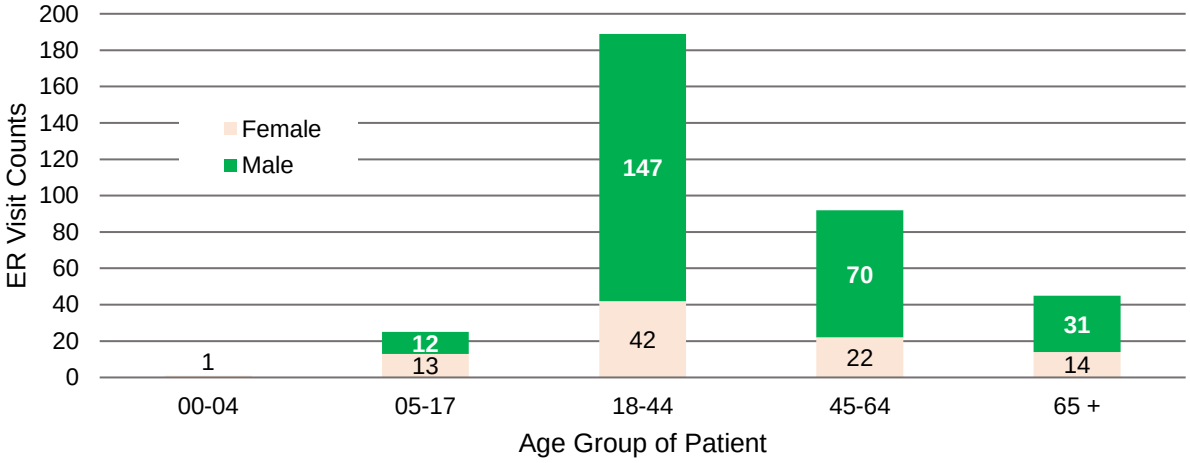
Figure 1. Kansas Heat-related ED Visits by Date and Temperature, 7/1/2019 - 7/28/2019, N=352



Data: Kansas Syndromic Surveillance Program ESSENCE query "Heat Related Illness v2" filtering for all KS ED facilities and "Has Been Emergency = Yes".

The highest number of visits on any given day, 34, occurred on July 9. Males accounted for 260 or 73.9 percent of the reported heat-related visits. Females accounted for 92 visits. The age bracket of 18-44 had the highest number of visits (Figure 2).

Figure 2. Kansas Heat-related ED Visits by Age Group and Sex, 7/1/2019 - 7/28/2019, N=352



Data: Kansas Syndromic Surveillance Program ESSENCE query "Heat Related Illness v2" filtering for all KS ED facilities and "Has Been Emergency = Yes".

Discussion

Heat-related illnesses increase as the outdoor temperature increases. Even when the temperature is not as high heat-related illnesses occur. Heat-related illnesses occur more frequently among males in the 18-44 age group. This is likely due to performing work outdoors.

This analysis has several limitations: not all hospitals are reporting to KSSP; not all persons treated for heat-related illnesses were seen in a hospital; and the query may have missed some illnesses.

Further surveillance heat-related illness is suggested. This is a function of the KDHE EPHTN program, which provides ongoing monitoring at https://keap.kdhe.state.ks.us/Ephtm/PortalPages/ContentData?CID=5.

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Kansas Influenza Surveillance, 2018-2019

Introduction

Influenza is not a nationally notifiable disease, nor is it a notifiable disease in Kansas; therefore, the burden of influenza is monitored through non-traditional methods. Influenza surveillance in Kansas consists of seven components that provide data on outpatient influenza-like illness (ILI), influenza viruses, influenza-associated deaths, and outbreaks.

Influenza-like Illness Surveillance

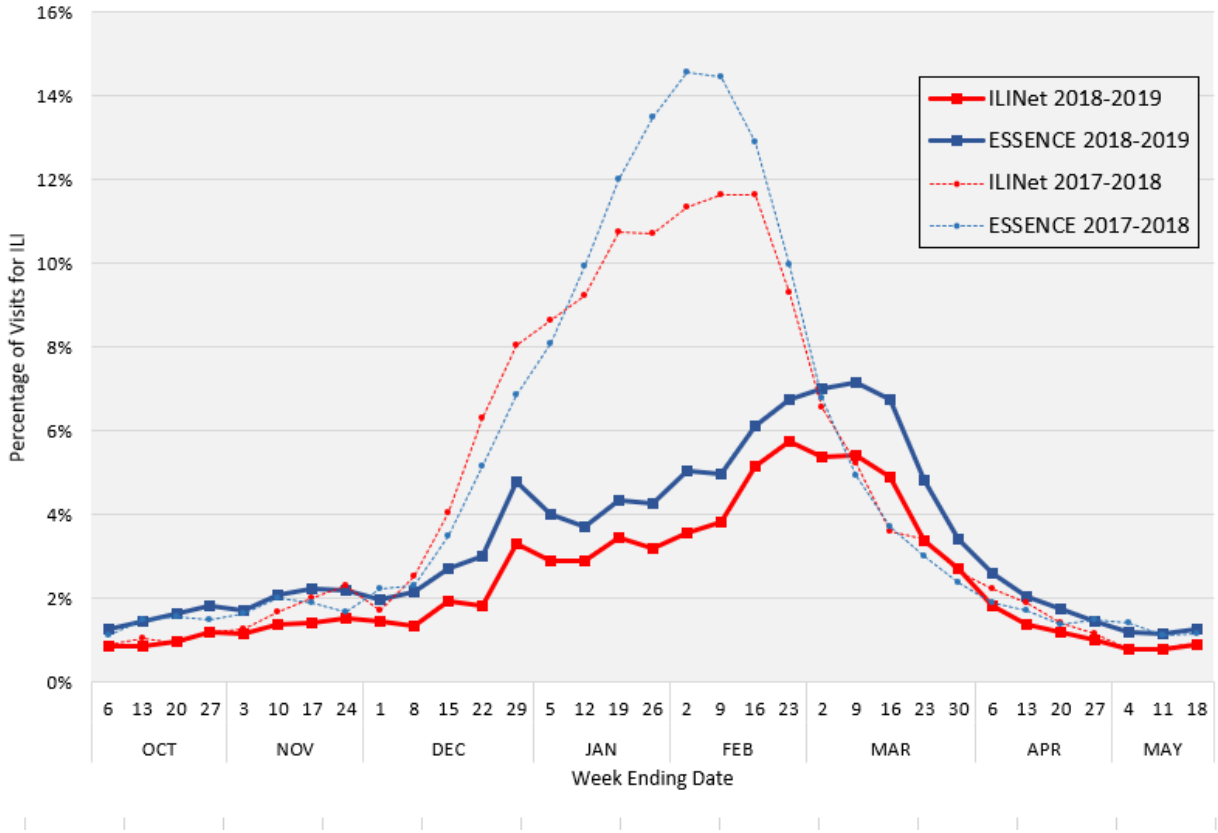
The U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) is a collaboration between the Centers for Disease Control and Prevention (CDC) and state, local, and territorial health departments. The purpose of this surveillance is to estimate morbidity and mortality due to influenza, recognize trends in transmission, determine the types of circulating influenza strains, and detect changes in influenza viruses. ILI is defined as fever (≥100°F or ≥37.8°C, measured either at the ILINet site or at the patient's home) with cough and/or sore throat, in the absence of a known cause other than influenza.

Forty outpatient health care providers were enrolled in ILINet in Kansas for the 2018-2019 influenza surveillance period. These sites consisted of 17 hospital emergency departments, 17 family practice clinics, 4 university student health centers, and 2 pediatric clinics. Two family practice clinics and one emergency department failed to submit any data.

During the surveillance period, starting September 30, 2018 and ending May 18, 2019, sites observed a total of 476,392 patients; 11,740 (2.5%) sought care for ILI. The rate of ILI rose steadily from December 2018 through February 2019 and it peaked at 5.8% during the week ending February 23, 2019. The rate of ILI dropped below 2% during the week ending April 6, 2019 and remained low through the end of the surveillance period (Figure 1).

In addition, KDHE participates in the National Syndromic Surveillance Program and receives data from emergency departments (EDs) across Kansas. These de-identified records can be queried to detect disease trends and outbreaks. The percentage of ED visits meeting the ILI syndrome definition increased steadily from December 2018 through February 2019, then rapidly increased to its peak (7.1%) in March (Figure 1). This trend was similar to ILINet data reported by providers during the same period.

Figure 1: Percentage of Visits for Influenza-like Illness (ILI) Reported by ILINet Sites and ESSENCE, October 2017-May 2018



Laboratory Surveillance

During the 2018-2019 surveillance period, the Kansas Health and Environmental Laboratories (KHEL) provided confirmatory testing for ILINet site patients with ILI. Real-time polymerase chain reaction (RT-PCR) tests were used to analyze nasal and nasopharyngeal swabs for the presence of influenza viruses. Laboratory data was sent weekly to CDC by KHEL. In addition, KHEL forwarded a subset of its specimens to CDC for subtyping, antigenic characterization, and antiviral resistance testing.

From October 1, 2018 until May 18, 2019, KHEL tested 340 specimens for influenza. Two hundred forty-four specimens were sent from four large hospital laboratories; the majority were pre-screened influenza A positive. Influenza was detected in 223 (66%) of the specimens. Both influenza type A and B viruses were detected. Two influenza A subtypes, A/H3 and A/H1, and one influenza B lineage, Victoria, were identified. The influenza A/H3 subtype was most frequently detected, representing 68% of all positive specimens (Table 1).

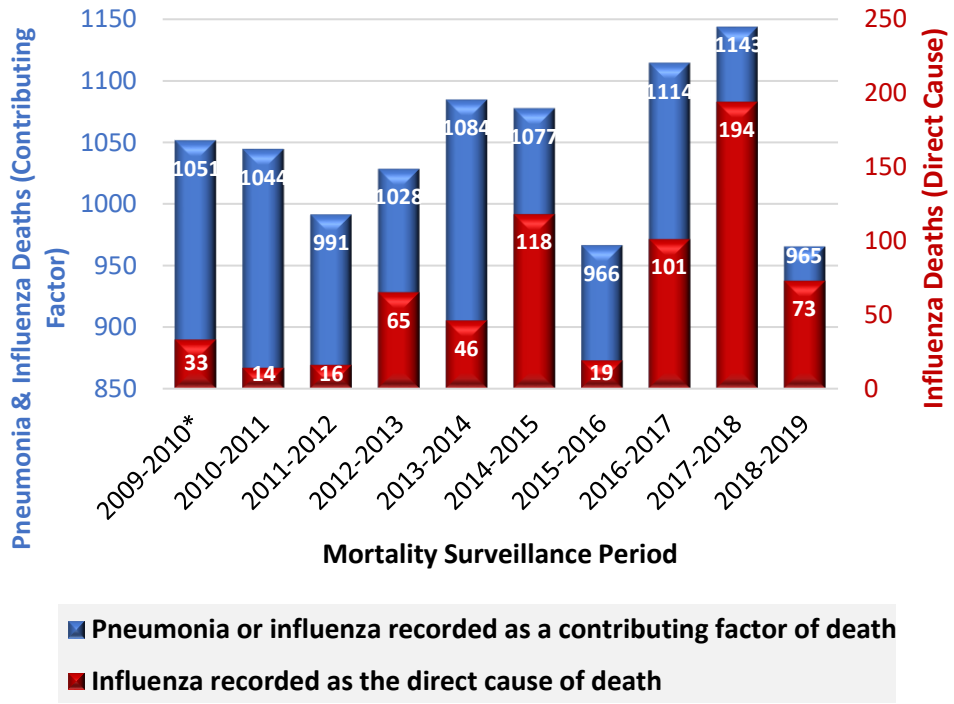
Table 1: Laboratory-Confirmed Influenza Viruses Detected from Specimens at KHEL by Subtype – Kansas, October 1, 2018 - May 18, 2019 (n=223)

Influenza subtype	# of specimens	% of specimens
A/H3	152	68%
A/H1	67	30%
A (not subtyped)	3	1%
B (Victoria lineage)	1	<1%

Pneumonia and Influenza Mortality

KDHE monitored influenza-related mortality through death certificate surveillance to determine the number of deaths caused by pneumonia or influenza (P&I). Traditionally, P&I mortality data includes deaths that occurred from September through May. A total of 1,400 pneumonia and influenza deaths occurred during the 2018-2019 surveillance period (Figure 2). This observed mortality was below the 10-year median of 1,572. During the 2018-2019 surveillance period, 73 deaths (5.1%) were directly attributed to influenza, which was above the 10-year median (56 deaths) and the 10-year mean (68 deaths).

Figure 2: Pneumonia and Influenza Mortality by Surveillance Period – Kansas, 2009-2019*



**Each influenza season begins September 1 and ends May 31 of the following year, with the exception of 2009-2010 (May 1, 2009 through May 31, 2010). This time shift is due to the emergence of pandemic H1N1 in May 2009. The 2018-2019 data is provisional and subject to change.*

Influenza-Associated Pediatric Mortality

Influenza deaths in children less than 18 years of age (pediatric) are required to be reported in Kansas. Pediatric deaths were considered influenza-related if there was no period of recovery between the clinically compatible illness and death, and if the diagnosis was confirmed to be influenza by an appropriate laboratory test.

During the 2018-2019 surveillance period, two influenza-associated pediatric deaths were reported in Kansas. Neither received the 2018-2019 influenza vaccine.

Summary

For the 2018-2019 influenza season, ILI peaked at 5.8% during the week ending February 23, 2018. This peak was lower than what was observed during the previous two surveillance periods; ILI peaked at 11.8% in 2017-2018 and 10.4% in 2016-2017. Three influenza viruses were detected in Kansas during the 2018-2019 season: A/H1, A/H3, and one B lineage. The predominant strain in Kansas and the U.S. was A/H3.

During the 2018-2019 influenza season, 73 deaths in Kansas were directly attributed to influenza. This was a sharp decrease from the previous season with 194 deaths.

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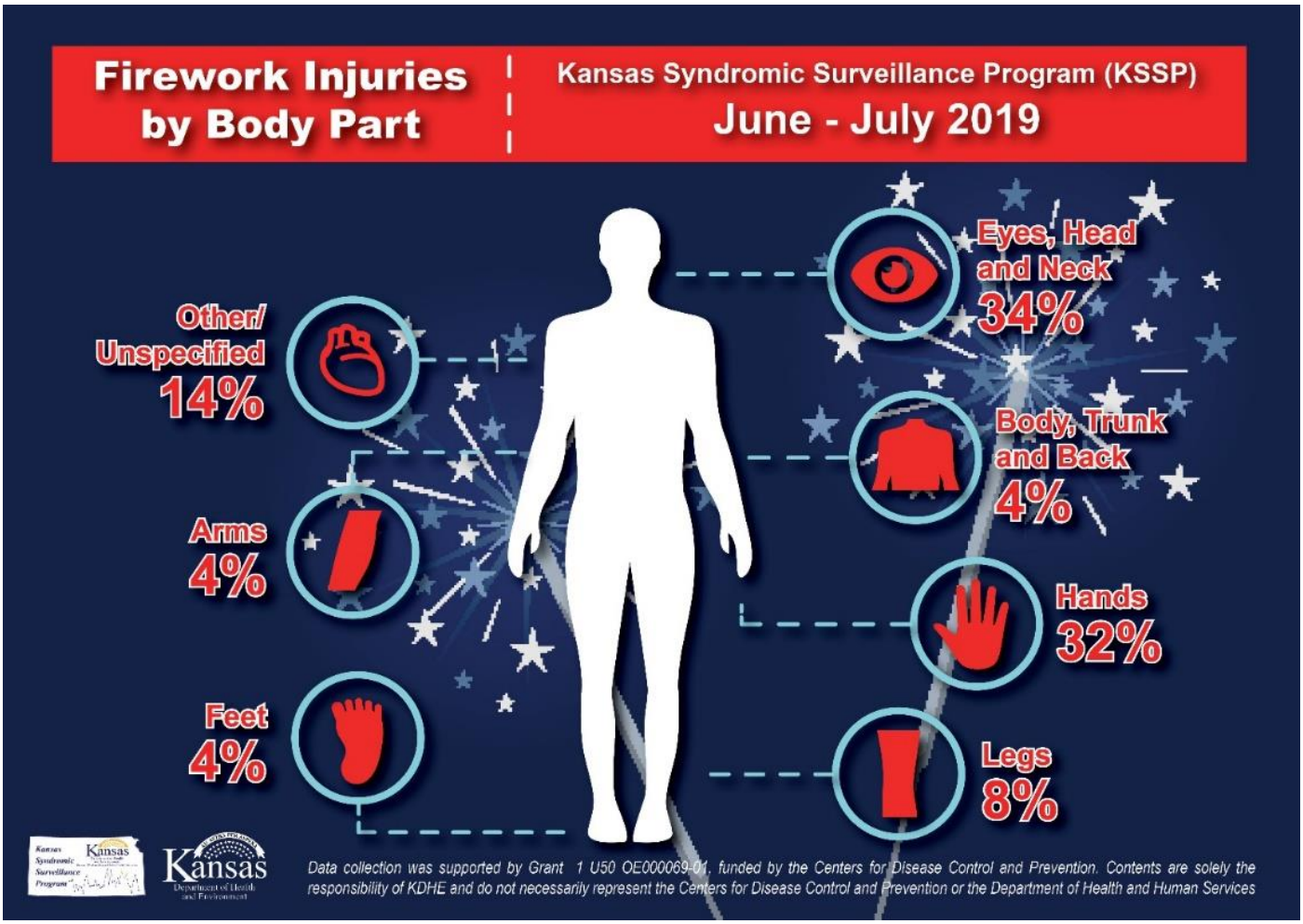
Fireworks Injuries by Body Part June-July2019



Updates & Announcements

Kansas Information for Communities Birth Module Updated

The Kansas Information for Communities (KIC) System's "Birth Module" has been updated with CY2018 birth data. The module allows users to query birth information ranging from 1995 to 2018 on a multitude of subjects and filter criteria. For instance, the number of singular births and multiple births, age of mother at time of birth, birth weights can be obtained. Statistics can also be broken out by race, ethnicity, county, regional group, and the state.

This query tool can be found at the following link, http://kic.kdheks.gov/. Click on the "Birth Statistics" icon on the home page. While visiting the site check out the other modules, fast stats, and resources made available by the system.

Bureau of Epidemiology and Public Health Informatics

Kansas Health Matters Updated

The Bureau of Epidemiology and Public Health Informatics has updated Kansas Health Matters (KHM) indicators, while its site hosting partner, Conduent, has added updated information and is enhancing the KHM maps

The following is a list of newly updated indicators on Kansas Health Matters staging website. The new measures include:

- Colorectal Cancer Rate
- Female Breast Cancer Rate
- Lung & Bronchus Cancer Rate
- Male Prostate Cancer Rate
- Percentage of Screened 3-12 Grade Students w/No Dental Sealants
- Percentage of Screened K-12 Grade Students w/Obvious Dental Decay

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